



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 138877

TO: Michael D Burkhart
Location: REM/2C84/2C70
Art Unit: 1636
Friday, December 10, 2004
Case Serial Number: 10/018712

From: Paul Schulwitz
Location: Biotech-Chem Library
REM-1A65
Phone: (571)272-2527

paul.schulwitz@uspto.gov

Search Notes

Examiner Burkhart,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Paul Schulwitz
Technical Information Specialist
STIC Biotech/Chem Library
(571)272-2527



From: Unknown@Unknown.com
Sent: Monday, November 29, 2004 4:40 PM
To: STIC-Biotech/ChemLib
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#= _____

LogNumber= _____

Searcher= _____

SearcherPhone= _____

SearcherBranch= _____

MyDate=Mon Nov 29 16:39:35 EST 2004

submitto=Biotech01@uspto.gov

Name=Mike Burkhart

Empno=80346

Phone=571 272-2915

Artunit=AU 1636

Office=REM 2C84

Serialnum=10/018,712

PatClass=435/458

Earliest=6/16/1999

Format1=paper

Searchtopic=I'm looking for prior art regarding a method of using compounds for nucleic acid transfection (and art on the compounds). The basic structure of the compounds is found in claims 21, 32, and 36 of the application (I don't know how to transmit the structure in this format). Applicants provide a name for one compound, glucitol (claim 36). Broadly, the compounds are called "bolaamphiphiles" and "gemini compounds" or "gemini surfactants." One example of prior art (from the Int. Search Report) is Pestman, J. et al, 1997, Langmuir, Vol. 13: pgs.6857-6860. Fig. 1 of the Pestman reference illustrates some examples of the compound structure. I'm a bit out of my element here, my AU does not typically handle chemical structure searches, so, please let me know if I can be of further assistance. Thank you very much in advance,

Mike Burkhart

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10/29 2005
STIC

STAFF USE ONLY

Searcher: _____
Searcher Phone: 2- _____
Date Searcher Picked up: _____
Date Completed: _____
Searcher Prep/Rev. Time: _____
Online Time: _____

Type of Search

NA Sequence: # _____
AA Sequence: # _____
Structure: # _____
Bibliographic: _____
Litigation: _____
Patent Family: _____
Other: _____

Vendors and cost where applicable

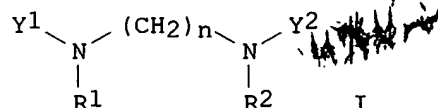
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DIALOG: _____
QUESTEL/ORBIT: _____
LEXIS/NEXIS: _____
SEQUENCE SYSTEM: _____
WWW/Internet: _____
Other(Specify): _____

L8 ANSWER 1 OF 1 . HCAPLUS...COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:900600 HCAPLUS
DOCUMENT NUMBER: 134:56913
ENTRY DATE: Entered STN: 22 Dec 2000
TITLE: Carbohydrate-based polyhydroxy diamine surfactants for
gene transfer
INVENTOR(S): Camilleri, Patrick; Engberts, Jan Bernard Frederick
Nicolaas; Fielden, Matthew Leigh; Kremer, Andreas
PATENT ASSIGNEE(S): Smithkline Beecham P.L.C., UK; University of Groningen
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C07C215-10
SECONDARY: C12N015-87
CLASSIFICATION: 33-7 (Carbohydrates)
Section cross-reference(s): 3, 9
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000076954	A1	20001221	WO 2000-GB2365	20000616 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AN, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1185502	A1	20020313	EP 2000-942195	20000616 <--
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
JP 2003502307	T2	20030121	JP 2001-503814	20000616 <--
PRIORITY APPLN. INFO.:			GB 1999-14085	A 19990616
			WO 2000-GB2365	W 20000616 <--

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000076954	ICM	C07C215-10
	ICS	C12N015-87
OTHER SOURCE(S):		MARPAT 134:56913
GRAPHIC IMAGE:		



ABSTRACT:

The use of carbohydrate-based surfactant compds. having general formula (I) wherein Y1 and Y2, which may be the same or different, are carbohydrate groups; R1 and R2, which may be the same or different, are selected from: (a) hydrogen; (b) C(1-24) alkyl group; (c) C(1-24) alkyl carboxy group; or (d) a carbon chain of 2 to 24 carbon atoms having one or more carbon/carbon double bonds, and n is from 1 to 10; for facilitating the transfer of DNA or RNA polynucleotides, or analogs thereof, into an eukaryotic or prokaryotic cell in vivo or in vitro. New carbohydrate-based surfactant compds. having sym., gemini structure, are also disclosed. Preferably, the Y1 and Y2 carbohydrate groups are open chain form of glucose. Use of the surfactant compds. for genetic transformation/transfection, in particular, delivery of antisense oligonucleotides or drugs, for gene therapy, genetic immunization, and treatment of infection, are claimed. A method for the synthesis of such carbohydrate-based surfactant compds. by addition of carbohydrate groups at the amine ends of an alkyl diamine compound is also claimed.

SUPPL. TERM: carbohydrate polyhydroxy diamine surfactant gene transfer;
glucose polyhydroxy diamine surfactant gene transfer;
synthesis carbohydrate polyhydroxy diamine surfactant gene
transfection; drug delivery gene therapy carbohydrate
polyhydroxy diamine surfactant

INDEX TERM: Drug targeting
Gene therapy
Surfactants
Transformation, genetic
(carbohydrate-based polyhydroxy diamine surfactants for
gene transfer)

INDEX TERM: Antisense oligonucleotides
ROLE: BPR (Biological process); BSU (Biological study,
unclassified); THU (Therapeutic use); BIOL (Biological
study); PROC (Process); USES (Uses)
(carbohydrate-based polyhydroxy diamine surfactants for
gene transfer)

INDEX TERM: Glycoconjugates
ROLE: BUU (Biological use, unclassified); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation);
USES (Uses)
(carbohydrate-based polyhydroxy diamine surfactants for
gene transfer)

INDEX TERM: Amines, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(diamines, aliphatic, alkyl; carbohydrate-based polyhydroxy
diamine surfactants for gene transfer)

INDEX TERM: Immunization
(genetic; carbohydrate-based polyhydroxy diamine
surfactants for gene transfer)

INDEX TERM: Animal cell
(infection, therapy for; carbohydrate-based polyhydroxy
diamine surfactants for gene transfer)

INDEX TERM: 50-99-7, D-Glucose, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(carbohydrate-based polyhydroxy diamine surfactants for
gene transfer)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
RECORD.

REFERENCE(S): (1) Gao, X; GENE THERAPY 1995, V2(10), P710 HCAPLUS
(2) Pestman, J; LANGMUIR 1997, V13, P6857 HCAPLUS

10/018,712

10/018,712

10/018,712

L9 ANSWER 1 OF 1, REGISTRY COPYRIGHT 2004 ACS on STN

RN 50-99-7 REGISTRY

CN D-Glucose (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN (+)-Glucose

CN Anhydrous dextrose

CN Cartose

CN Cerelose

CN Cerelose 2001

CN Clearsweet 95

CN Clintose L

CN Corn sugar

CN CPC hydrate

CN D(+)-Glucose

CN Dextropur

CN Dextrose

CN Dextrosol

CN Glucodin

CN Glucolin

CN Glucose

CN Glucosteril

CN Goldsugar

CN Grape sugar

CN Maxim Energy Gel

CN Meritose

CN Meritose 200

CN Roferose ST

CN Staleydex 111

CN Staleydex 130

CN Staleydex 333

CN Staleydex 95M

CN Sugar, grape

CN Tabfine 097(HS)

CN Vadex

FS STEREOSEARCH

DR 8012-24-6, 8030-23-7, 162222-91-5, 165659-51-8, 50933-92-1, 80206-31-1

MF C6 H12 O6

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent; Preprint; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

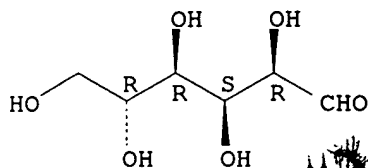
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical

study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

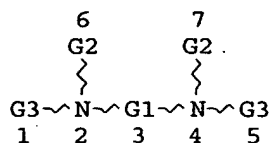


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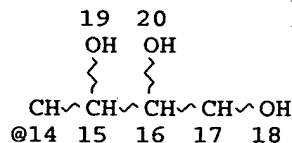
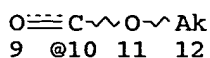
172624 REFERENCES IN FILE CA (1907 TO DATE)
2451 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
172814 REFERENCES IN FILE CAPLUS (1907 TO DATE)
14 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d que 124

L12 STR



Ak @8



Hy~O
@13 @21

REP G1=(1-10) CH2

VAR G2=8/10

VAR G3=13/21/14

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 8

CONNECT IS E1 RC AT 12

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 13

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M4-X5 C E1 O AT 13

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L14 4085762 SEA FILE=REGISTRY ABB=ON PLU=ON N>1 AND NC<3 AND O>4

L15 437217 SEA FILE=REGISTRY ABB=ON PLU=ON L14 AND (OC4 OR OC5)/ES

L16 302353 SEA FILE=REGISTRY ABB=ON PLU=ON L14 NOT RSD/FA

L17 739570 SEA FILE=REGISTRY ABB=ON PLU=ON L15 OR L16

L19 41 SEA FILE=REGISTRY SUB=L17 SSS FUL L12

L20 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L19

L21 65443 SEA FILE=HCAPLUS ABB=ON PLU=ON "TRANSFORMATION, GENETIC"+PFT,
NT/CTL23 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND (L21 OR TRANSFEC? OR
TRANSFORM?)

L24 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 OR L20

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L24 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:390263 HCAPLUS

DOCUMENT NUMBER: 140:407070

TITLE: Preparation of novel macrolide derivatives having
effect of potentiating antifungal activity of azole
fungicides

INVENTOR(S): Omura, Satoshi; Tomoda, Hiroshi; Sunazuka, Toshiaki;
Arai, Masayoshi; Nagamitsu, Tohru

PATENT ASSIGNEE(S): The Kitasato Institute, Japan

SOURCE: PCT Int. Appl., 58 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

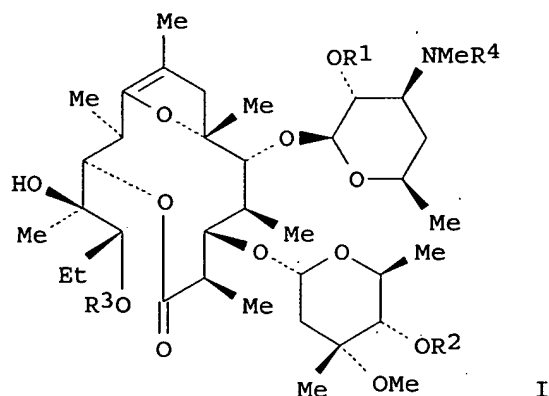
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039823	A1	20040513	WO 2002-JP11213	20021029
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			WO 2002-JP11213	20021029

GI



AB Novel macrolide (8,9-anhydro-pseudoerythromycin A 6,9-hemiketal, erythromycin A, and clarithromycin) derivs. (I; R1 = R2 = R3 = Ac, R4 = Me; R1 = H, R2 = R3 = Ac, R4 = Me or H; R1 = R2 = R3 = Bzl, R4 = Me; R1 = Ac or H, R2 = R3 = Pr, R4 = Me; R1 = Ac or H, R2 = R3 = hexyl, R4 = Me; R1 = Ac, R2 = R3 = Bzl, R4 = Me; R1 = R2 = H, R3 = Bzl, R4 = Me; R1 = H, R2 = R3 = hexyl, R4 = H or Et) are prepared. These compds. potentiate the activity of azole antifungal agents (e.g. miconazole and fluconazole) which act on fungal infection at a low concentration within a short period of time and make it possible to lower the appearance frequency of tolerant strains, in particular *Candida albicans* ATCC64548 and *Aspergillus niger* ATCC6275. They are also used for prevention and/or treatment of fungal infections accompanied by lowering immunity in HIV infection or blood diseases.

IC ICM C07H017-08

ICS A61K031-7048; A61P031-10

CC 33-7 (Carbohydrates)

Section cross-reference(s): 1

IT 105882-75-5P, 2', 4'', 13-Tri-O-acetyl-8,9-anhydro-pseudoerythromycin A 6,9-hemiketal 688316-07-6P 688316-08-7P 688316-09-8P 688316-10-1P 688316-11-2P 688316-12-3P 688316-13-4P 688316-14-5P 688316-15-6P 688316-16-7P 688316-17-8P 688316-18-9P 688316-19-0P 688316-20-3P 688316-21-4P 688316-22-5P 688316-23-6P 688316-24-7P

688316-25-8P 688316-26-9P 688316-27-0P 688316-28-1P
688316-29-2P 688316-30-5P 688316-31-6P 688316-32-7P 688316-33-8P
688316-34-9P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

(preparation of macrolide glycoside derivs. as agents for potentiating
antifungal activity of azole fungicides against tolerant strains of
Candida albicans and *Aspergillus niger*)

IT 688316-25-8P 688316-26-9P 688316-34-9P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

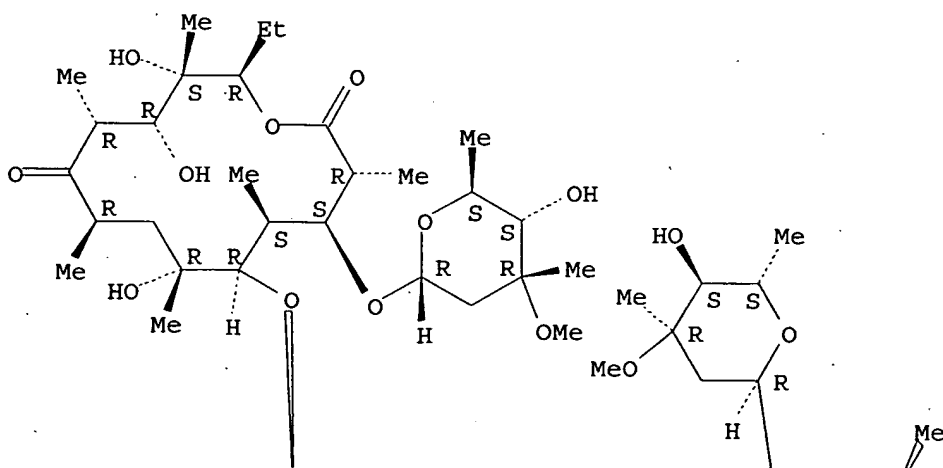
(preparation of macrolide glycoside derivs. as agents for potentiating
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Candida albicans and *Aspergillus niger*)

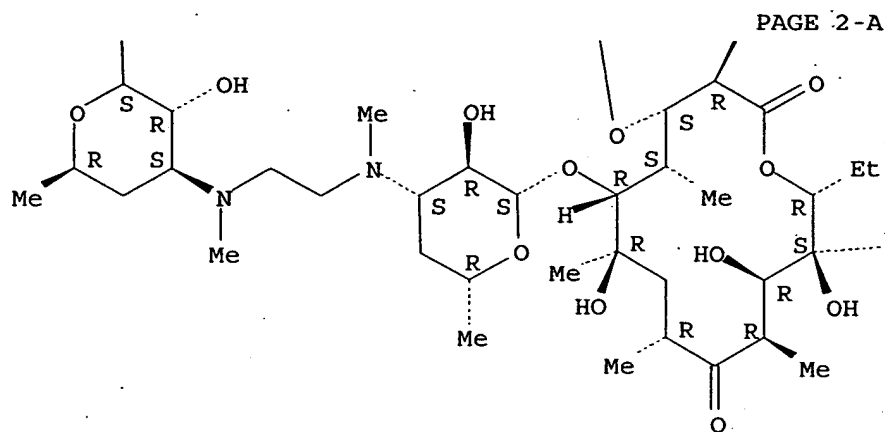
RN 688316-25-8 HCAPLUS

CN Erythromycin, N,N'-1,2-ethanediylbis[N-demethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





PAGE 2-B

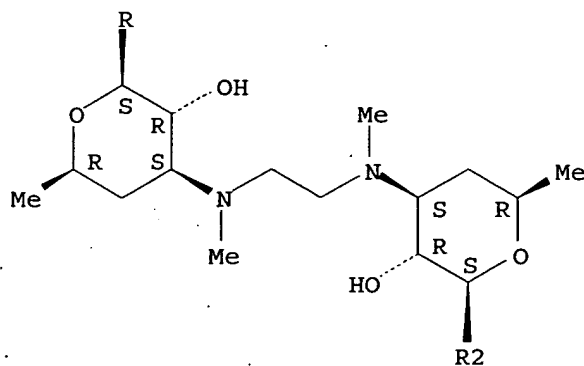
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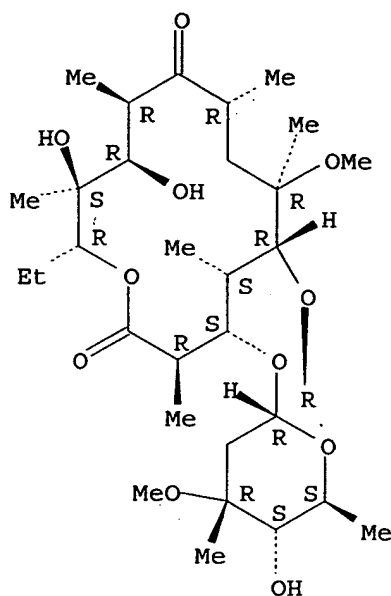
CN Erythromycin, N,N'-1,2-ethanediylbis[N-demethyl-6-O-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

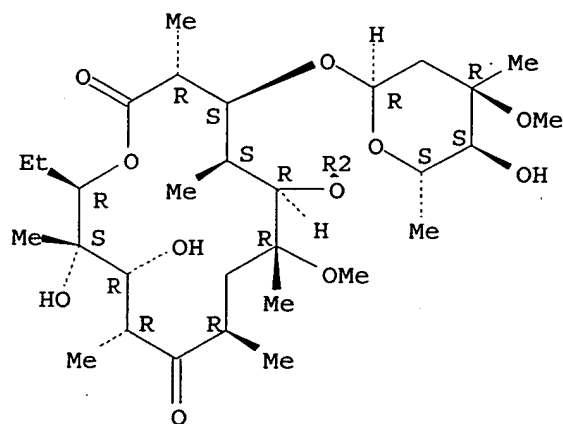
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PAGE 2-A



PAGE 3-A

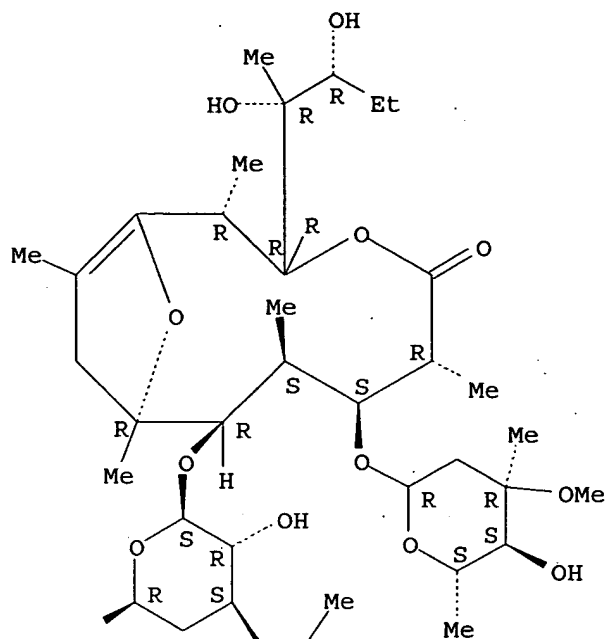


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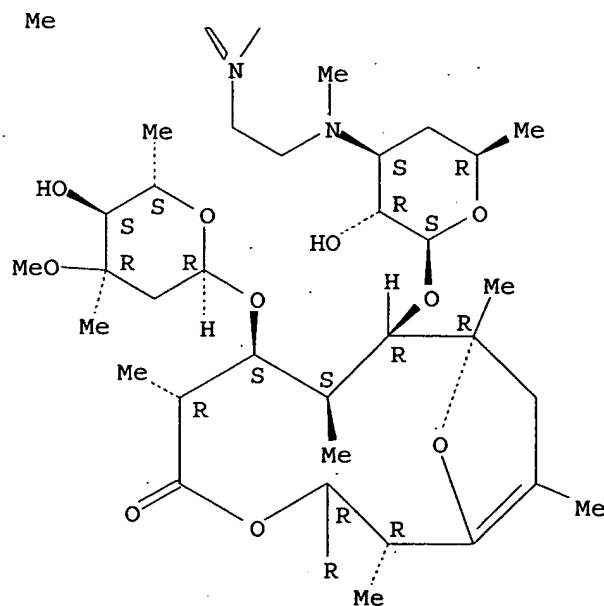
CN 4,13-Dioxabicyclo[8.2.1]tridec-12-en-5-one, 3',3'''-[1,3-propanediylbis(methylimino)]bis[7-[(2,6-dideoxy-3-C-methyl-3-O-methyl- α -L-ribo-hexopyranosyl)oxy]-3-[(1R,2R)-1,2-dihydroxy-1-methylbutyl]-2,6,8,10,12-pentamethyl-9-[(3,4,6-trideoxy- β -D-xylo-hexopyranosyl)oxy]-, (2R,2'R,3R,3'R,6R,6'R,7S,7'S,8S,8'S,9R,9'R,10R,10'R) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.

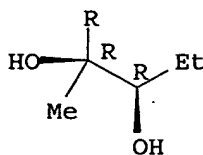
PAGE 1-A



PAGE 2-A



PAGE 3-A



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:331311 HCAPLUS

DOCUMENT NUMBER: 139:70732

TITLE: Sugar-Based Gemini Surfactants with pH-Dependent Aggregation Behavior: Vesicle-to-Micelle Transition, Critical Micelle Concentration, and Vesicle Surface Charge Reversal

AUTHOR(S): Johnsson, Markus; Wagenaar, Anno; Stuart, Marc C. A.; Engberts, Jan B. F. N.

CORPORATE SOURCE: Stratingh Institute, Physical Organic Chemistry Unit, University of Groningen, Groningen, Neth.

SOURCE: Langmuir (2003), 19(11), 4609-4618

CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In a recent report, we presented data on the rich and unusual pH-dependent aggregation behavior of a sugar-based (reduced glucose) gemini surfactant (Johnsson et al. J. Am. Chemical Society 2003, 125, 757). In the present study,

we extend the previous investigation by introducing a different sugar headgroup (reduced mannose), by varying the spacer between the two main surfactant parts, and by introducing, in one of the surfactants, an amide linkage (instead of an amine linkage) between the headgroup and the unsatd. (C18:1) hydrocarbon tails. The aggregation behavior of these four gemini surfactants has been studied and compared by means of light scattering, cryo-transmission electron microscopy, electrophoretic mobility, and fluorescence measurements. We find that all four surfactants form vesicles near neutral or high pH. However, the vesicles made from the amine-containing geminis are transformed into cylindrical or wormlike micelles at lower pH values (pH < .apprx.5.5). The micellization is driven mainly by an increased electrostatic repulsion, caused by the protonation of the tertiary amino groups, and we find that the nature of the sugar or spacer has little influence on this process. At low pH (pH 2), solely small globular micelles are found, and the critical micelle concentration at this pH is about 0.005-0.010 mM for the different amine-containing surfactants. As was expected, the gemini surfactant with the amide instead of the amine functional groups in the headgroup does not undergo the vesicle-to-micelle transition but displays only vesicle formation within the investigated pH range. The electrophoretic mobility measurements on the vesicular samples formed from the amine-containing geminis show that the vesicles are cationic below pH .apprx.7-7.5; however, the vesicles acquire a substantial neg. charge at a higher pH. The most probable explanation for this charge reversal is a strong adsorption (or binding) of hydroxide ions onto the vesicle surface. In accordance with this hypothesis, we find that the vesicles made from the amide-containing gemini are anionic (no protonation) even at a low pH (pH

<5). Using a simple Poisson-Boltzmann model, we are able to describe the obtained ζ -potential profiles reasonably well and derive a hydroxide-ion binding constant (KOH) for the resp. systems. We find that the nature of the sugar does have a small influence on KOH. The colloidal stability of all four types of the gemini vesicles seems to be well-described by the classical Derjaguin-Landau-Verwey-Overbeek theory, and the vesicles aggregate/flocculate rapidly in the limit of low surface potential. However, the flocculated vesicles can be easily redispersed by, for example, raising the pH of the solution, and this flocculation/redispersal process is completely reversible.

CC 46-3 (Surface Active Agents and Detergents)

Section cross-reference(s): 44

IT 493020-90-9 550358-84-4 550358-85-5 550358-86-6

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(surface property of sugar-based Gemini surfactants with pH-dependent aggregation behavior)

IT 550358-85-5

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

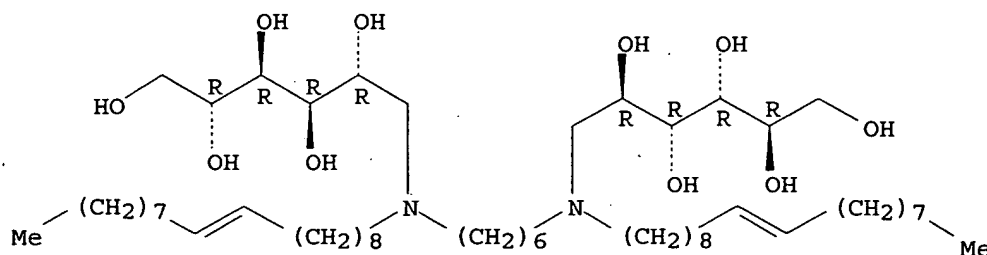
(surface property of sugar-based Gemini surfactants with pH-dependent aggregation behavior)

RN 550358-85-5 HCAPLUS

CN D-Mannitol, 1,1'-[1,6-hexanediylbis(9-octadecenylimino)]bis[1-deoxy-, dihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.



● 2 HCl

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:45626 HCAPLUS

DOCUMENT NUMBER: 138:149329

TITLE: Transfection mediated by gemini surfactants:

engineered escape from the endosomal compartment

AUTHOR(S): Bell, Paul C.; Bergsma, Mark; Dolbnya, Igor P.; Bras, Wim; Stuart, Marc C. A.; Rowan, Alan E.; Feiters, Martinus C.; Engberts, Jan B. F. N.

CORPORATE SOURCE: Physical Organic Chemistry Unit, Stratingh Institute, University of Groningen, Groningen, 9747, Neth.

SOURCE: Journal of the American Chemical Society (2003), 125(6), 1551-1558

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The structure of the lipoplex formed from DNA and the sugar-based cationic gemini surfactant 1, which exhibits excellent **transfection** efficiency, has been investigated in the pH range 8.8-3.0 utilizing small-angle X-ray scattering (SAXS) and cryo-electron microscopy (cryo-TEM). Uniquely, three well-defined morphologies of the lipoplex were observed upon gradual acidification: a lamellar phase, a condensed lamellar phase, and an inverted hexagonal (HII) columnar phase. Using mol. modeling, we link the observed lipoplex morphologies and phys. behavior to specific structural features in the individual surfactant, illuminating key factors in future surfactant design, viz., a spacer of six methylene groups, the presence of two nitrogens that can be protonated in the physiol. pH range, two unsatd. alkyl tails, and hydrophilic sugar headgroups. Assuming that the mechanism of **transfection** by synthetic cationic surfactants involves endocytosis, we contend that the efficacy of gemini surfactant 1 as a gene delivery vehicle can be explained by the unprecedented observation of a pH-induced formation of the inverted hexagonal phase of the lipoplex in the endosomal pH range. This change in morphol. leads to destabilization of the endosome through fusion of the lipoplex with the endosomal wall, resulting in release of DNA into the cytoplasm.

CC 6-6 (General Biochemistry)

Section cross-reference(s): 3, 46

IT 344612-92-6 344612-93-7

RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(lipoplex membrane phase characterization and mol. modeling escape of gemini surfactant from endosomal compartment)

IT 344612-92-6 344612-93-7

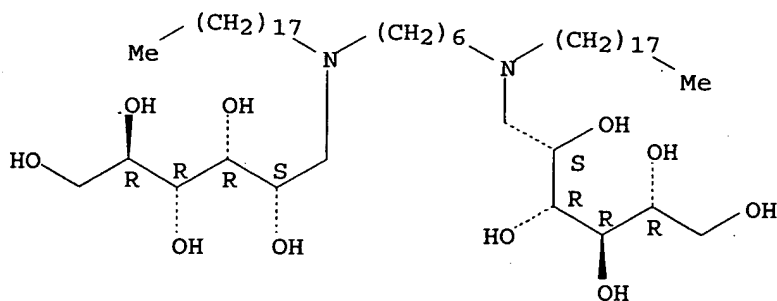
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(lipoplex membrane phase characterization and mol. modeling escape of gemini surfactant from endosomal compartment)

RN 344612-92-6 HCAPLUS

CN D-Glucitol, 1,1'-[1,6-hexanediylbis(octadecylimino)]bis[1-deoxy- (9CI) (CA INDEX NAME)]

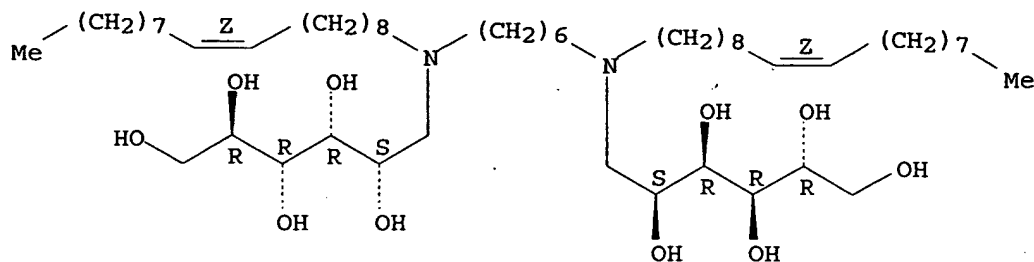
Absolute stereochemistry.



RN 344612-93-7 HCAPLUS

CN D-Glucitol, 1,1'-[1,6-hexanediylbis[(9Z)-9-octadecenylimino]]bis[1-deoxy- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:560291 HCAPLUS

DOCUMENT NUMBER: 137:281043

TITLE: Association behaviour of glucitol amine gemini surfactants self-consistent-field theory and molecular-dynamics simulations

AUTHOR(S): van Eijk, M. C. P.; Bergsma, M.; Marrink, S.-J.

CORPORATE SOURCE: Center for Chemistry and Chemical Engineering, Physical Chemistry 1, Lund University, Lund, 221 00, Swed.

SOURCE: European Physical Journal E: Soft Matter (2002), 7(4), 317-324

CODEN: EPJSFH; ISSN: 1292-8941

PUBLISHER: EDP Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The association behavior of a number of glucitol amine gemini surfactants was investigated by means of mol. dynamics and self-consistent-field calcns. The titratable head group of the surfactant is responsible for a micelle-to-membrane transition when changing the pH. Furthermore, the association structure of this group of surfactants is very sensitive to ionic strength. The combination of a charged head group, a spacer, and the hydrophilic glucitol side chains is responsible for the possible structural transitions in the assoc. as a function of ionic strength and pH.

CC 46-1 (Surface Active Agents and Detergents)

IT 344612-89-1 344612-90-4

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(association behavior of glucitol amine gemini surfactants SCF theory and mol.-dynamics simulations)

IT 344612-89-1 344612-90-4

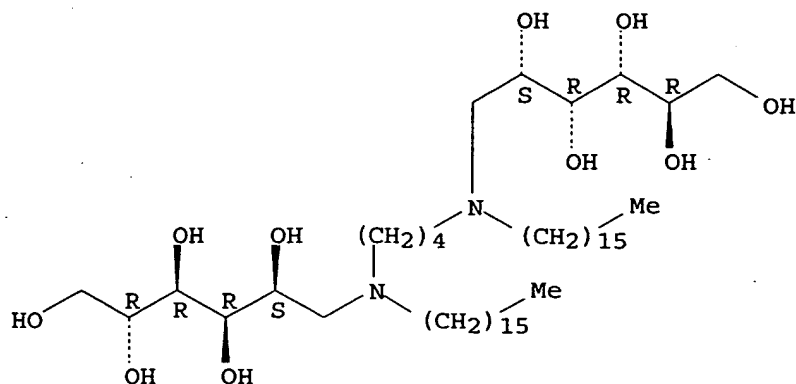
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(association behavior of glucitol amine gemini surfactants SCF theory and mol.-dynamics simulations)

RN 344612-89-1 HCAPLUS

CN D-Glucitol, 1,1'-[1,4-butanediylbis(hexadecylimino)]bis[1-deoxy- (9CI)
(CA INDEX NAME)

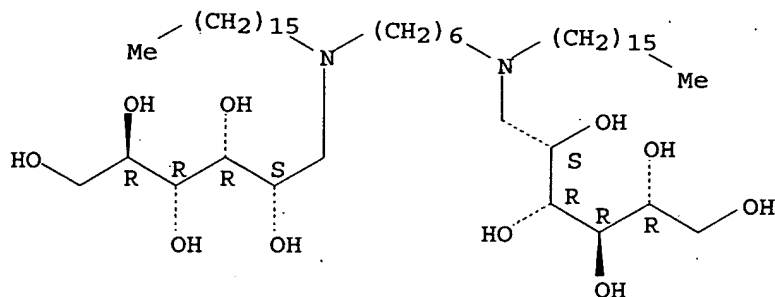
Absolute stereochemistry.



RN 344612-90-4 HCAPLUS

CN D-Glucitol, 1,1'-[1,6-hexanediylbis(hexadecylimino)]bis[1-deoxy- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:868139 HCAPLUS

DOCUMENT NUMBER: 136:1862

TITLE: Surfactants for herbicidal glyphosate formulations

INVENTOR(S): Lennon, Patrick J.; Chen, Xiangyang; Arhancet, Garciela B.; Glaenzer, Jeanette L.; Gillespie, Jane L.; Graham, Jeffrey A.; Becher, David Z.; Wright, Daniel L.; Agbaje, Henry E.; Xu, Xiaodong C.; Abraham, William; Brinker, Ronald J.; Pallas, Norman R.; Wideman, Al S.; Mahoney, Martin D.; Henke, Susan L.

PATENT ASSIGNEE(S): Monsanto Technology, LLC, USA

SOURCE: PCT Int. Appl., 365 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001089302	A2	20011129	WO 2001-US16550	20010521

WO 2001089302 A3 20030626
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2407751 AA 20011129 CA 2001-2407751 20010521
EP 1343375 A2 20030917 EP 2001-937648 20010521
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2003535056 T2 20031125 JP 2001-585556 20010521
BR 2001010978 A 20040113 BR 2001-10978 20010521
US 2002123430 A1 20020905 US 2001-988353 20011119
US 2003087764 A1 20030508 US 2001-988352 20011119
US 2003096708 A1 20030522 US 2001-988340 20011119
CA 2439689 AA 20020912 CA 2002-2439689 20020301
WO 2002069718 A2 20020912 WO 2002-US6709 20020301
WO 2002069718 A3 20021031

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EP 1389912 A2 20040225 EP 2002-713759 20020301
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

BR 2002007826 A 20040622 BR 2002-7826 20020301
US 2003104943 A1 20030605 US 2002-926521 20020426
WO 2002096199 A2 20021205 WO 2002-US16032 20020521
WO 2002096199 A3 20031224

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2002102153 A2 20021227 WO 2002-US15977 20020521
WO 2002102153 A3 20031113

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,

GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
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NZ 529552	A	20031219	NZ 2002-529552	20020521
EP 1389040	A2	20040218	EP 2002-747849	20020521
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002009919	A	20040824	BR 2002-9919	20020521
BR 2002009940	A	20040824	BR 2002-9940	20020521
PRIORITY APPLN. INFO.:				
			US 2000-205524P	P 20000519
			US 2000-206628P	P 20000524
			US 2001-273234P	P 20010302
			US 2001-274368P	P 20010308
			WO 2001-US16550	W 20010521
			US 2001-926521	A2 20011114
			US 2001-988340	A 20011119
			US 2001-988352	A 20011119
			US 2001-988353	A 20011119
			WO 2002-US6709	W 20020301
			US 2002-926521	A2 20020426
			WO 2002-US15977	W 20020521
			WO 2002-US16032	W 20020521

OTHER SOURCE(S): MARPAT 136:1862

AB A herbicidal composition is provided comprising an aqueous solution of glyphosate, predominantly in the form of the potassium salt, at a concentration ≥ 300 g/L and a surfactant solution or stable suspension, emulsion, or dispersion in the water, at 20-300 g/L, wherein the composition has a viscosity < 250 cP at 0° or a Gardner color value < 10 . The surfactants are amines or quaternary ammonium salts. When the formulation is applied to plants, liquid crystals comprising the surfactant are formed on leaves.

IC ICM A01N057-20

ICS A01N025-30; C11D001-44; C11D001-62

CC 5-3 (Agrochemical Bioregulators)

IT 24991-53-5DP, coco fatty acid amide derivs. 165327-15-1P 376395-68-5P
 376395-77-6P 376395-78-7P 376395-79-8P

376395-80-1P 376395-93-6P 376395-94-7P 376395-95-8P

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation as surfactant for herbicidal glyphosate formulations)

IT 112-00-5, Arquad 12-37W 112-02-7, Cetyltrimethylammonium chloride
 3332-27-2, Myristyl dimethyl amine oxide 9002-92-0, Brij35 9003-11-6D,
 Oxirane-methyloxirane copolymer, alkylamine/tallow derivs. 9004-95-9,
 Brij56 9005-00-9, Brij78 9042-76-6, Emcol CC42 23323-40-2
 24938-91-8, Ethoxylated tridecyl alcohol 25322-68-3D, Polyethylene
 glycol, cocoamine derivs. 34901-14-9, DPA 400E 35972-47-5
 37311-01-6D, dimethylamine ether derivs. 40021-80-5D, tallow alkyl
 derivs. 65150-81-4D, dimethylamine ether derivs. 73038-25-2
 73458-62-5 90355-86-5 157072-01-0 376395-97-0 376395-98-1
 376395-99-2 376396-00-8 376396-01-9 376396-02-0
 376396-03-1D, coco/tallow amine derivs. 376590-44-2, Q 17-M3
 376595-59-4, 1816E15PA 376596-24-6, Duoquat T 50 376596-78-0, EXP-B
 2030A 376596-90-6, EXP-B 2030B 376597-02-3, EXP-B 2030C 376597-53-4,
 Surfonic AGM 50 376600-21-4, T 23E1PAE2 376601-69-3, NDPA 14E6
 376615-49-5, E-D 17-5 376631-04-8, Q 14M3

RL: MOA (Modifier or additive use); USES (Uses)

(surfactant in herbicidal glyphosate formulations)

IT 376395-78-7P 376395-79-8P 376395-80-1P

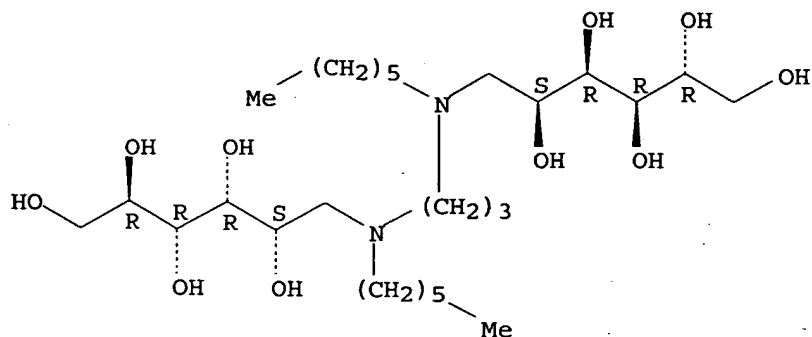
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation as surfactant for herbicidal glyphosate formulations)

RN 376395-78-7 HCAPLUS

CN D-Glucitol, 1,1'-[1,3-propanediylbis(hexylimino)]bis[1-deoxy- (9CI) (CA
INDEX NAME)

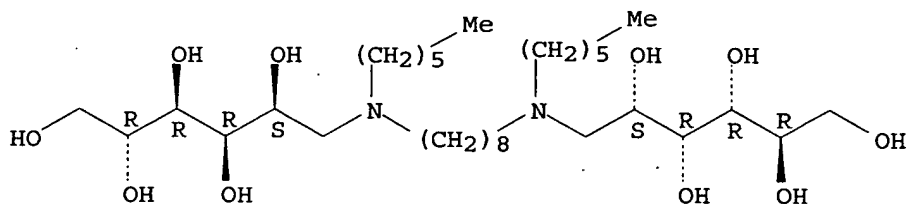
Absolute stereochemistry.



RN 376395-79-8 HCAPLUS

CN D-Glucitol, 1,1'-[1,8-octanediylbis(hexylimino)]bis[1-deoxy- (9CI) (CA
INDEX NAME)

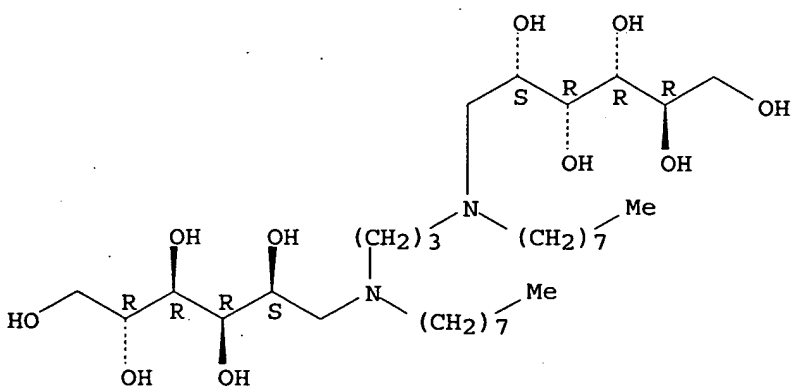
Absolute stereochemistry.



RN 376395-80-1 HCAPLUS

CN D-Glucitol, 1,1'-[1,3-propanediylbis(octylimino)]bis[1-deoxy- (9CI) (CA
INDEX NAME)

Absolute stereochemistry.



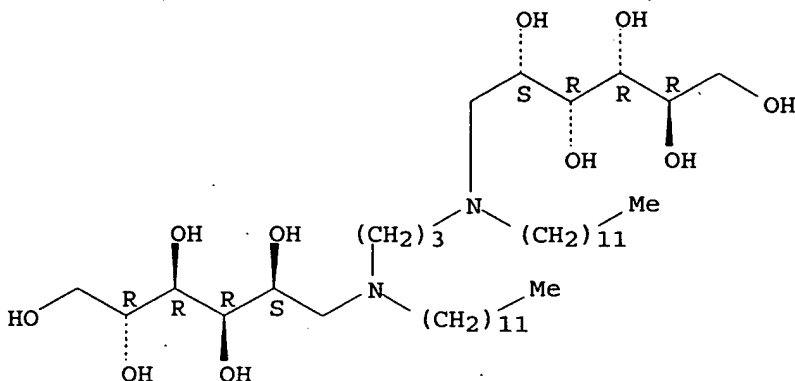
IT 376396-00-8

RL: MOA (Modifier or additive use); USES (Uses)
(surfactant in herbicidal glyphosate formulations)

RN 376396-00-8 HCAPLUS

CN D-Glucitol, 1,1'-[1,3-propanediylbis(dodecylimino)]bis[1-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L24 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:807874 HCAPLUS

DOCUMENT NUMBER: 136:140263

TITLE: pH-Dependent Aggregation Behavior of a Sugar-Amine Gemini Surfactant in Water: Vesicles, Micelles, and Monolayers of Hexane-1,6-bis(hexadecyl-1'-deoxyglucitylamine)

AUTHOR(S): Bergsma, Mark; Fielden, Matthew L.; Engberts, Jan B. F. N.

CORPORATE SOURCE: Physical Organic Chemistry Unit, Stratingh Institute, University of Groningen, Groningen, 9747 AG, Neth.

SOURCE: Journal of Colloid and Interface Science (2001), 243(2), 491-495

CODEN: JCISA5; ISSN: 0021-9797

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The pH-dependent aggregation behavior of one representative of a recently described series of sugar-amine gemini surfactants has been investigated. The surface tension (γ) and turbidity of hexane-1,6-bis(hexadecyl-1'-deoxyglucitylamine) drop steeply between pH 5.5 and 4.0, consistent with a vesicle-to-micelle transition. The critical micelle concentration (cmc) at low pH

(3.0) was determined by surface tension measurements to be 1×10^{-3} M. This value is high, as γ is at the cmc (57 mN m⁻¹). The area per headgroup (Ah) extracted from the slope of the curve of γ vs concentration below the cmc is 109 Å². In an attempt to obtain a reasonable estimate of the headgroup area at higher pH, surface pressure vs area measurements were performed on a monolayer supported on pure water (pH 6), providing an Ah of ca. 69 Å². The dependence of Ah on pH is consistent with the proposed vesicle-to-micelle transition. Measurements of the gel-to-liquid crystalline phase transition using differential scanning calorimetry at a range of pH revealed a drop in both the phase transition temperature and the transition enthalpy with decreasing pH. The pH dependence of the

aggregation behavior can thus be summarized as follows: (1) pH 7.5-5.5, bilayer vesicles; (2) pH 5.5-4.0, a "drop region" where aggregate morphol. is sensitive to small changes in pH; and (3) pH <4.0, micelles. (c) 2001 Academic Press.

CC 66-2 (Surface Chemistry and Colloids)

Section cross-reference(s): 75

IT 344612-90-4, Hexane-1,6-bis(hexadecyl-1'-deoxyglucitylamine)

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(pH-dependent aggregation behavior and vesicles and micelles and monolayers of hexanebishexadecyldeoxyglucitylamine in water)

IT 344612-90-4, Hexane-1,6-bis(hexadecyl-1'-deoxyglucitylamine)

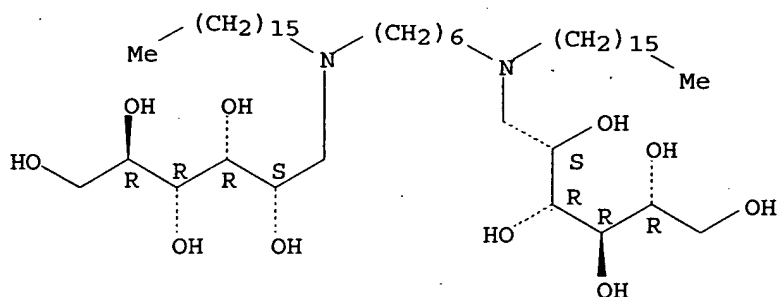
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(pH-dependent aggregation behavior and vesicles and micelles and monolayers of hexanebishexadecyldeoxyglucitylamine in water)

RN 344612-90-4 HCAPLUS

CN D-Glucitol, 1,1'-[1,6-hexanediylbis(hexadecylimino)]bis[1-deoxy- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:190727 HCAPLUS

DOCUMENT NUMBER: 135:50963

TITLE: Sugar-based tertiary amino gemini surfactants with a vesicle-to-micelle transition in the endosomal pH range mediate efficient transfection in vitro

AUTHOR(S): Fielden, Matthew L.; Perrin, Christele; Kremer, Andreas; Bergsma, Mark; Stuart, Marc C.; Camilleri, Patrick; Engberts, Jan B. F. N.

CORPORATE SOURCE: Physical Organic Chemistry Unit, Stratingh Institute, University of Groningen, Groningen, 9747 AG, Neth.

SOURCE: European Journal of Biochemistry (2001), 268(5), 1269-1279

CODEN: EJBCAI; ISSN: 0014-2956

PUBLISHER: Blackwell Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Novel reduced sugar gemini amphiphiles linked through their tertiary amino head groups via alkyl spacers of 4 or 6 carbons, and with varying (unsatd.) alkyl tail lengths of 12-18, have been synthesized and tested

for **transfection** in vitro in an adherent Chinese hamster ovary cell line (CHO-K1). **Transfection** efficiencies peaked at 2.7 times that of the com. standard Lipofectamine Plus/2000 for pure solns. of the compound bearing unsatd. (oleyl) alkyl tails. For those compds. bearing saturated alkyl tails, **transfection** efficiency peaked at a tail length of 16, at a level similar to Lipofectamine Plus/2000. All of the amphiphiles formed bilayer vesicles at physiol. pH. Some of the amino groups at the surface were protonated, and vesicles therefore bore a pos. charge. Increased protonation with reduced pH resulted in greatly increased monomer solubility and a morphol. change from vesicle to micelle at characteristic pH values, dependent on the tail length. For the compds. promoting high **transfection** efficiency, this characteristic pH was within the range found in the endosomal compartment (7.4-4.0). Formation of mixed micelles between gemini surfactant and membrane phospholipids at reduced pH may therefore provide a method of endosome rupture and subsequent escape of entrapped DNA, thus discarding the need for extra fusogenic or endosomolytic agents. The pos. charge on the vesicles at physiol. pH drives the colloidal association with DNA. Small angle X-ray scattering measurements indicate that lamellar aggregates are formed, which have a d spacing of 48-54 Å. Preliminary differential scanning calorimetric measurements suggest that reduction of pH causes a disordering of the hydrocarbon region of the DNA-surfactant complex.

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 1, 33

ST sugar tertiary amino gemini surfactant **transfection**; vesicle micelle sugar amino gemini surfactant

IT Drug delivery systems

(liposomes; sugar-based tertiary amino gemini surfactants with a vesicle-to-micelle transition in the endosomal pH range mediate efficient **transfection** in vitro)

IT Amphiphiles

Gene therapy

Micelles

Surface tension

Surfactants

Transformation, genetic

(sugar-based tertiary amino gemini surfactants with a vesicle-to-micelle transition in the endosomal pH range mediate efficient **transfection** in vitro)

IT 344612-85-7P 344612-86-8P 344612-87-9P

344612-88-0P 344612-89-1P 344612-90-4P

344612-91-5P 344612-92-6P 344612-93-7P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(sugar-based tertiary amino gemini surfactants with a vesicle-to-micelle transition in the endosomal pH range mediate efficient **transfection** in vitro)

IT 50-99-7, D-Glucose, reactions 124-09-4, 1,6-Hexanediamine, reactions

124-25-4, Tetradecanal 199680-37-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(sugar-based tertiary amino gemini surfactants with a vesicle-to-micelle transition in the endosomal pH range mediate efficient **transfection** in vitro)

IT 344612-85-7P 344612-86-8P 344612-87-9P

344612-88-0P 344612-89-1P 344612-90-4P

344612-91-5P 344612-92-6P 344612-93-7P

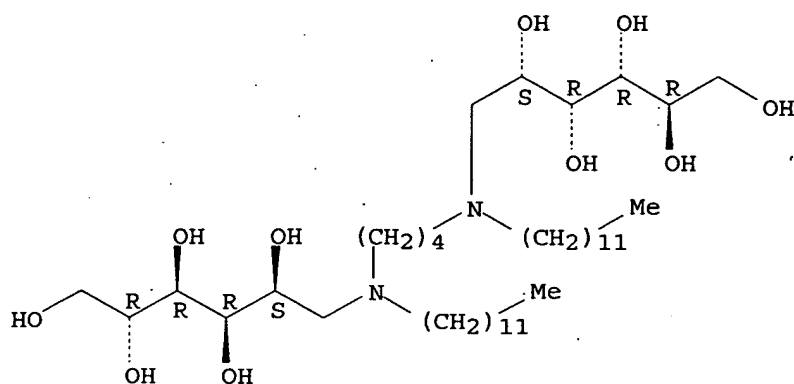
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)
 (sugar-based tertiary amino gemini surfactants with a
 vesicle-to-micelle transition in the endosomal pH range mediate
 efficient **transfection in vitro**)

RN 344612-85-7 HCAPLUS

CN D-Glucitol, 1,1'-[1,4-butanediylbis(dodecylimino)]bis[1-deoxy- (9CI) (CA
 INDEX NAME)

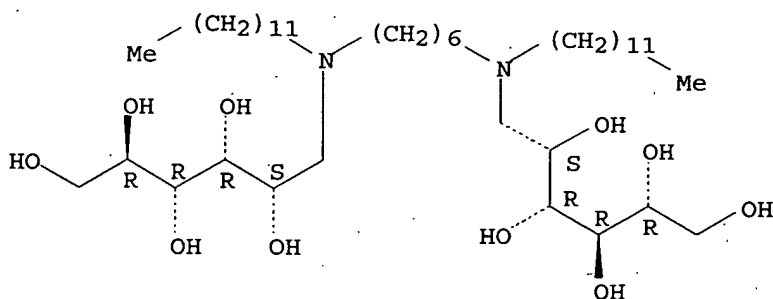
Absolute stereochemistry.



RN 344612-86-8 HCAPLUS

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 INDEX NAME)

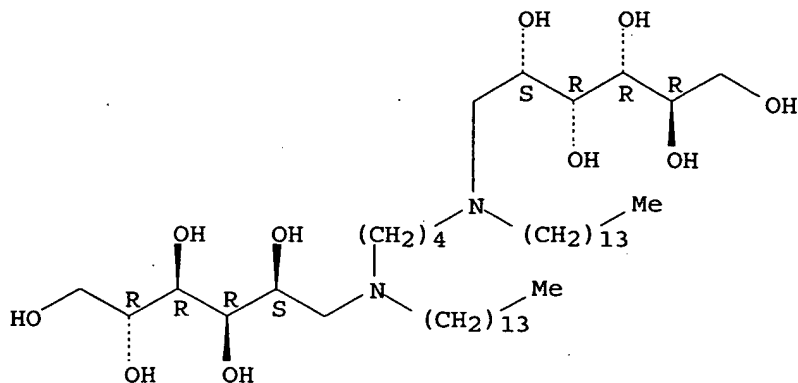
Absolute stereochemistry.



RN 344612-87-9 HCAPLUS

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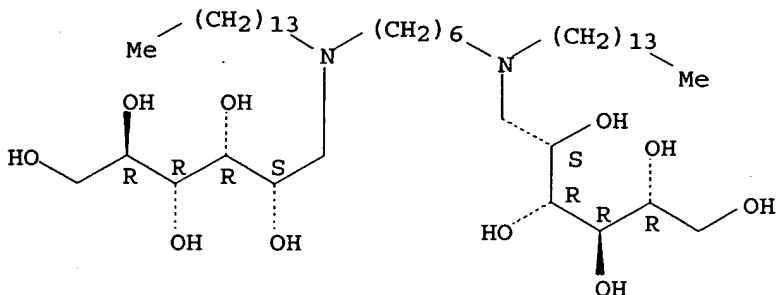
Absolute stereochemistry.



RN 344612-88-0 HCAPLUS

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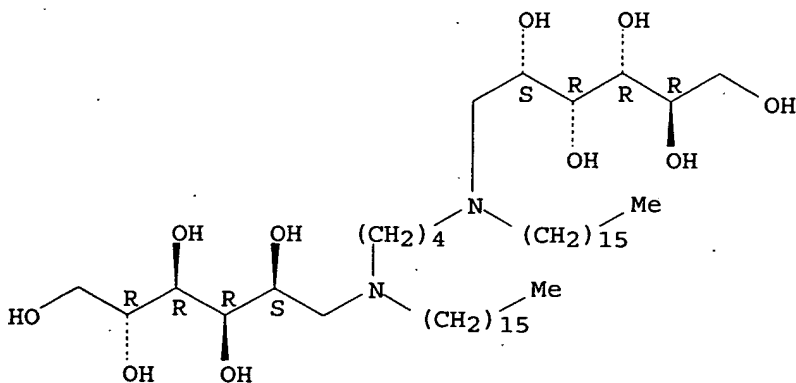
Absolute stereochemistry.



RN 344612-89-1 HCAPLUS

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(CA INDEX NAME)

Absolute stereochemistry.

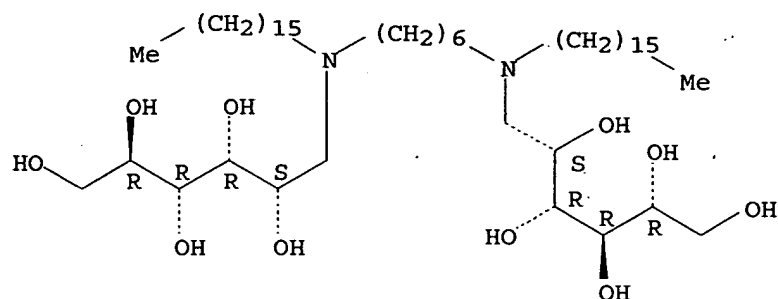


RN 344612-90-4 HCAPLUS

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(CA INDEX NAME)

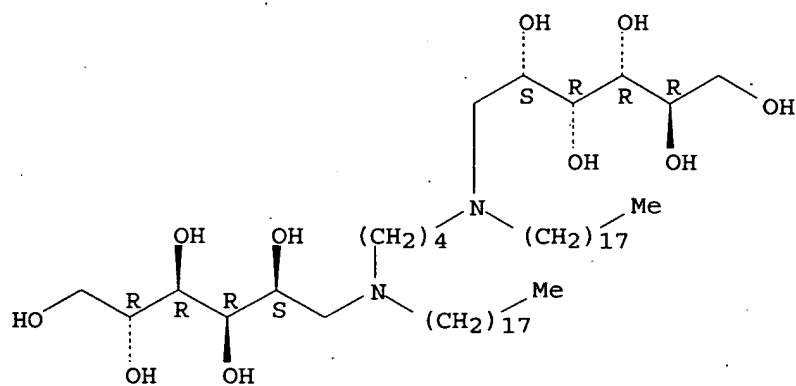
Absolute stereochemistry.



RN 344612-91-5 HCAPLUS

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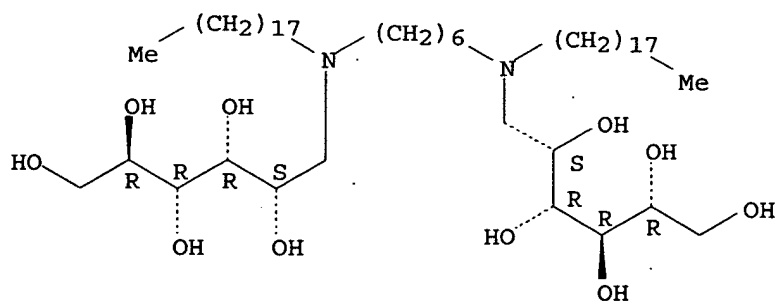
Absolute stereochemistry.



RN 344612-92-6 HCAPLUS

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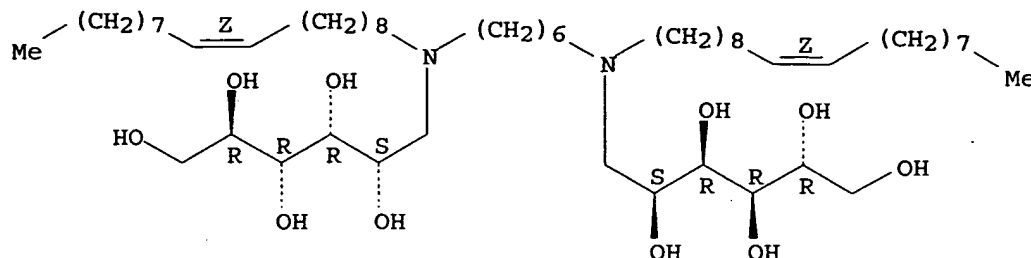
Absolute stereochemistry.



RN 344612-93-7 HCAPLUS

CN D-Glucitol, 1,1'-[1,6-hexanediylbis[(9Z)-9-octadecenylimino]]bis[1-deoxy-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:794364 HCAPLUS

DOCUMENT NUMBER: 132:35986

TITLE: Preparation of spinosyn macrocyclic lactone aminodeoxy glycosides as insecticides and miticides

INVENTOR(S): Deamicis, Carl Vincent; Anzeveno, Peter Biagio; Martynow, Jacek G.; McLaren, Kevin L.; Green, Frederick Richard, III; Sparks, Thomas C.; Kirst, Herbert A.; Creemer, Lawrence Camillo; Worden, Thomas V.; Schoonover, Joe Raymond, Jr.; Gifford, James Michael; Hatton, Christopher J.; Hegde, Vidyadhar B.; Crouse, Gary D.; Thoreen, Brian R.; Ricks, Michael J. Dow Agrosiences LLC, USA

PATENT ASSIGNEE(S):

SOURCE: U.S., 122 pp., Cont. of U.S. Ser. No. 662,549, abandoned.

CODEN: USXXAM

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 2

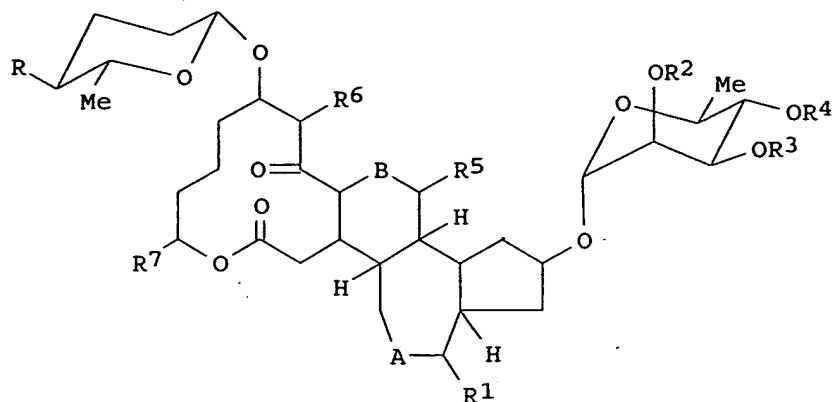
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6001981	A	19991214	US 1997-968856	19971105
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			US 1995-201P	P 19950614
			US 1995-1435P	P 19950714
			US 1995-9006P	P 19951221

OTHER SOURCE(S):

MARPAT 132:35986

GI



I

AB Title compds. I (A, B = single bond, double bond, epoxide linkage; R = alkylamino, ether; R1, R6 = H, Me; R2-R4 = alkyl, haloalkyl, alkanoyl, OH; R5 = H, alkyl, alkylamino, alkylhydroxylamino; R7 = Me, Et) are prepared by modifying the compds. that are naturally produced from *Saccharopolyspora spinosa*. The compds. of the invention have been shown to have activity against insects and mites. The compds. are prepared by modifying the rhamnose sugar, modification of the forosamine sugar, or starting with pseudo-aglycon and then replacement with a nonsugar derivative or different sugar, modification of the 5, 6, 5-tricyclic and 12-membered macrocyclic lactone part of the compds. naturally produced or of the pseudo-aglycon of the natural compds. Thus, 2'-O-trifluoroacetyl spinosyn Q was prepared and tested as a control of *Stomoxys calcitrans* (stable fly) and *Phormia regina* (blow fly) with 100% of ASF killed at 100 ppm.

IC ICM C07H017-00

NCL 536007100

CC 33-7 (Carbohydrates)

Section cross-reference(s): 5, 34

IT	187168-79-2P	187168-80-5P	187168-82-7P	187168-83-8P	187168-84-9P
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RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of spinosyn macrocyclic lactone aminodeoxy glycosides as insecticides and miticides)

IT 187171-96-6P

RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

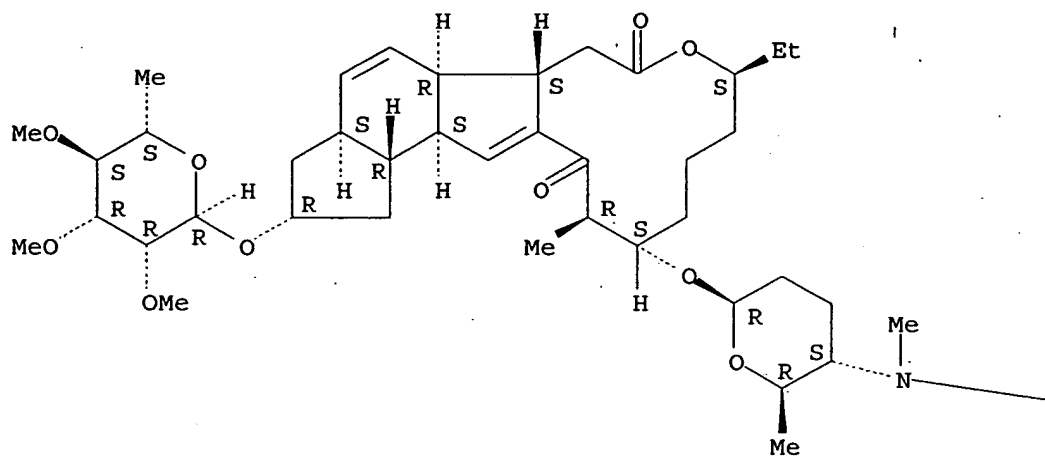
(preparation of spinosyn macrocyclic lactone aminodeoxy glycosides as insecticides and miticides)

RN 187171-96-6 HCAPLUS

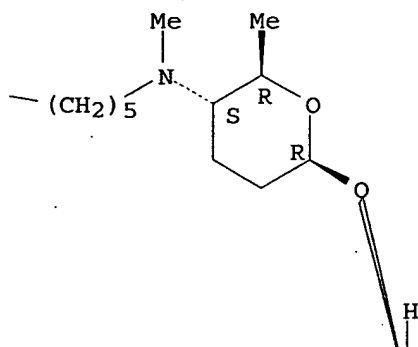
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Absolute stereochemistry.

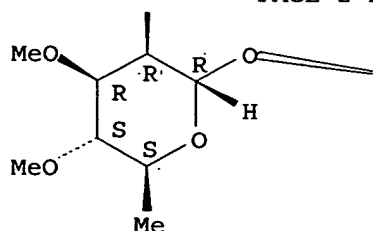
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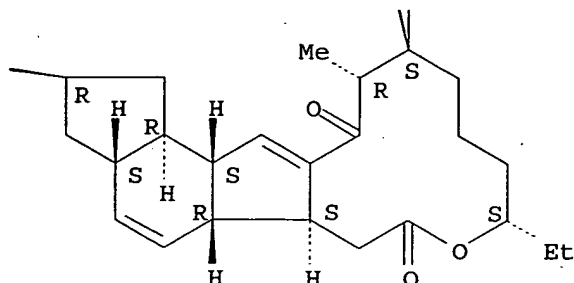
PAGE 1-B



PAGE 2-A



PAGE 2-B



REFERENCE COUNT: 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:181111 HCAPLUS

DOCUMENT NUMBER: 126:171845

TITLE: Preparation of spinosyn macrocyclic lactone aminodeoxy glycosides as insecticides and miticides

INVENTOR(S): Deamicis, Carl Vincent; Anzeveno, Peter Biagio; Martynow, Jacek G.; McLaren, Kevin L.; Green, Frederick Richard, III; Sparks, Thomas C.; Kirst, Herbert A.; Creemer, Lawrence Camillo; Worden, Thomas V.; Schoonover, Joe Raymond, Jr.; Gifford, James Michael; Hatton, Christopher J.; Hegde, Vidyadhar B.; Crouse, Gary D.; Thoreen, Brian R.; Ricks, Michael J.; et al.

PATENT ASSIGNEE(S): DowElanco, USA

SOURCE: PCT Int. Appl., 280 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9700265	A1	19970103	WO 1996-US10327	19960613
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
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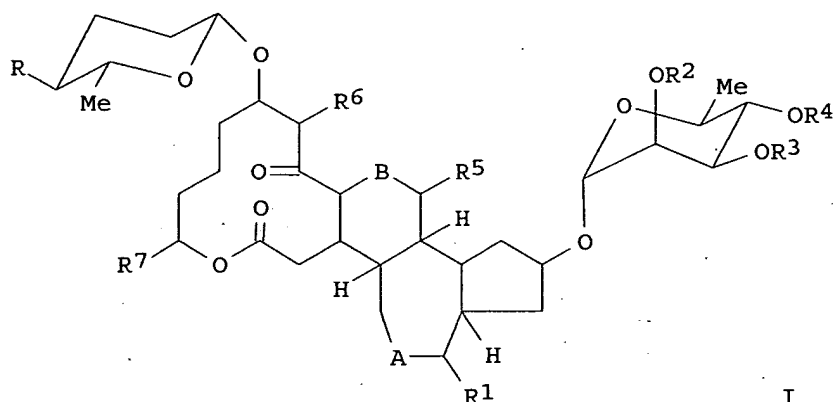
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EP 837870	B1	20020724		
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CN 1191541	A	19980826	CN 1996-195634	19960613
CN 1130369	B	20031210		
BR 9608380	A	19990105	BR 1996-8380	19960613
JP 11506117	T2	19990602	JP 1996-503351	19960613
ES 2179202	T3	20030116	ES 1996-919423	19960613
TW 487559	B	20020521	TW 1994-83102553	19961213

PRIORITY APPLN. INFO.:

US 1995-201P	P	19950614
US 1995-1435P	P	19950714
US 1995-9006P	P	19951221
US 1996-662549	A	19960613
WO 1996-US10327	W	19960613

OTHER SOURCE(S): MARPAT 126:171845

GI



I

AB Title compds. I (A, B = single bond, double bond, epoxide linkage; R = alkylamino, ether; R1, R6 = H, Me; R2-R4 = alkyl, haloalkyl, alkanoyl, OH; R5 = H, alkyl, alkylamino, alkylhydroxylamino; R7 = Me, Et) are prepared by modifying the compds. that are naturally produced from *Saccharopolyspora spinosa*. The compds. of the invention have been shown to have activity against insects and mites. The compds. are prepared by modifying the rhamnose sugar, modification of the forosamine sugar, or starting with pseudo-aglycon and then replacement with a nonsugar derivative or different sugar, modification of the 5, 6, 5-tricyclic and 12-membered macrocyclic lactone part of the compds. naturally produced or of the pseudo-aglycon of the natural compds. Thus, 2'-O-trifluoroacetyl sponosyn Q was prepared and tested as a control of *Stomoxys calcitrans* (stable fly) and *Phormia regina* (blow fly) with 100% of ASF killed at 100 ppm.

IC ICM C07H017-08

ICS A01N043-22; C07D407-12; C07D313-00

CC 33-7 (Carbohydrates)

Section cross-reference(s): 5, 34

IT 35954-65-5P	56709-66-1P	131929-56-1P	131929-57-2P	149439-79-2P
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RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of spinosyn macrocyclic lactone aminodeoxy glycosides as insecticides and miticides)

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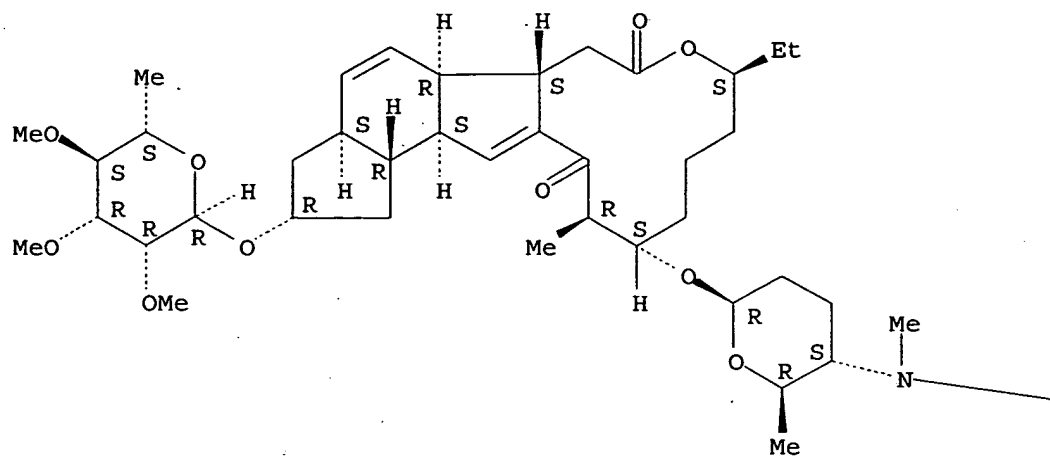
RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of spinosyn macrocyclic lactone aminodeoxy glycosides as insecticides and miticides)

RN 187171-96-6 HCAPLUS

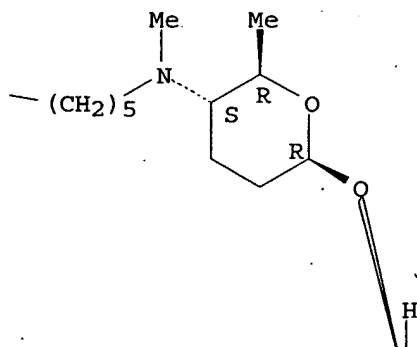
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Absolute stereochemistry.

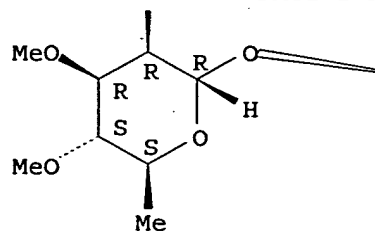
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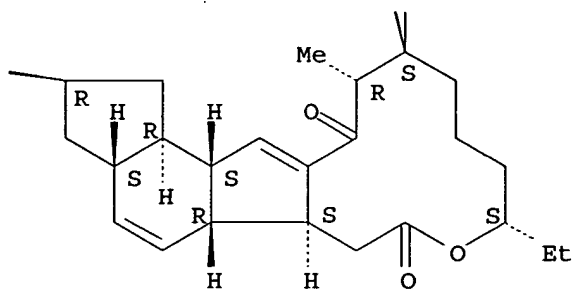
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PAGE 2-A



PAGE 2-B

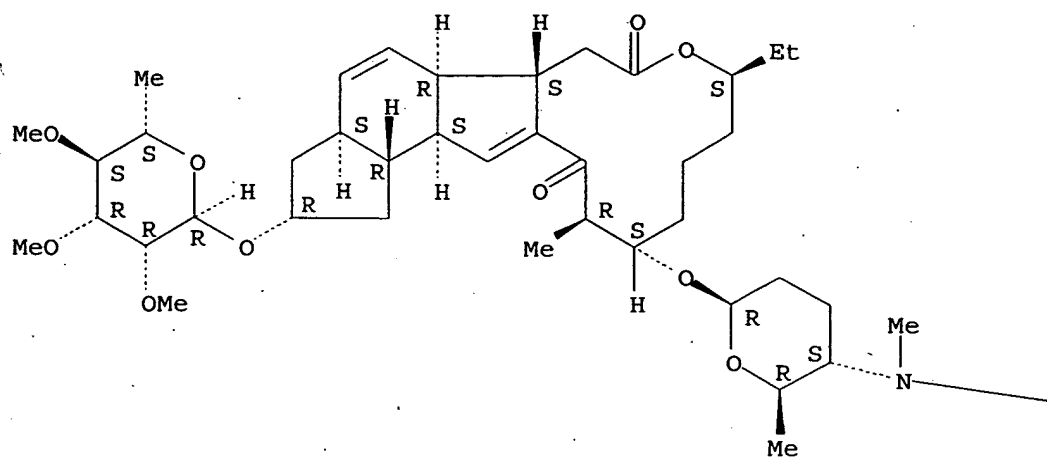


RN 187172-67-4 HCAPLUS

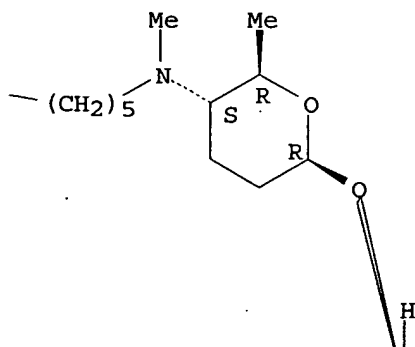
CN 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 13,13'-[1,5-pentanediy]bis[(methylimino)[(2R,5S,6R)-tetrahydro-6-methyl-2H-pyran-5,2-diyl]oxy]]bis[2-[(6-deoxy-2,3,4-tri-O-methyl- α -L-mannopyranosyl)oxy]-9-ethyl-2,3,3a,5a,5b,6,9,10,11,12,13,14,16a,16b-tetradecahydro-14-methyl-, monohydrobromide, [2R-[2R*,3aS*,5aR*,5bS*,9S*,13S*(2'R*,3'aS*,5'aR*,5'bS*,9'S*,13'S*,14'R*,16'aS*,16'bR*)],14R*,16aS*,16bR*]]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

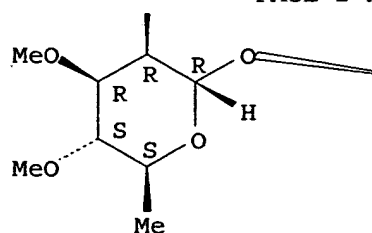
PAGE 1-A



PAGE 1-B

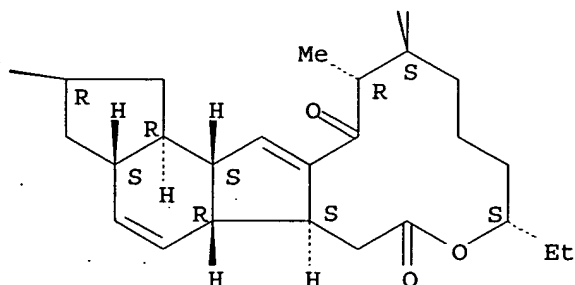


PAGE 2-A



● HBr

PAGE 2-B



L24 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:938167 HCAPLUS

DOCUMENT NUMBER: 123:344236

TITLE: Polyhydroxy diamines and their use in detergent compositions

INVENTOR(S): Scheibel, Jeffrey John; Connor, Daniel Stedman; Fu, Yi-Chang; Bodet, Jean-Francois; Brown, Lesley Alexandra; Vinson, Philip Kyle; Reilman, Randall Thomas

PATENT ASSIGNEE(S): Procter and Gamble Co., USA

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9519951	A1	19950727	WO 1995-US769	19950120
W: CA, CN, JP, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2181797	AA	19950727	CA 1995-2181797	19950120
EP 741691	A1	19961113	EP 1995-908588	19950120
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
CN 1142221	A	19970205	CN 1995-191880	19950120

JP 09508122 T2 19970819 JP 1995-519661 19950120
 US 5669984 A 19970923 US 1995-576265 19951221
 PRIORITY APPLN. INFO.: US 1994-187250 A 19940125
 US 1994-357645 A 19941222
 WO 1995-US769 W 19950120

AB X(NZR)(NZ1R1) (I; X = group having from 2 to 200 atoms; Z, Z1 = group containing ≥ 1 OH substituent; R, R1 = H, (substituted) alkyl, aryl, or alkylaryl) are useful in laundry, cleaning, and personal-care compns. A typical I was manufactured by reductive amination of glucose with ethylenediamine. at 70-120°.

IC ICM C07C215-14
 ICS C11D003-30

CC 46-6 (Surface Active Agents and Detergents)

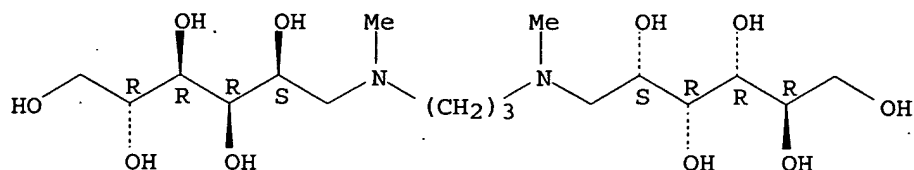
IT 112-57-2DP, Tetraethylenepentamine, reaction products with maltodextrin 9050-36-6DP, Maltodextrin, reaction products with tetraethylenepentamine 87157-57-1P 170695-52-0P 170695-53-1P 170695-54-2P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyhydroxy diamines for detergents)

IT 170695-53-1P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyhydroxy diamines for detergents)

RN 170695-53-1 HCAPLUS

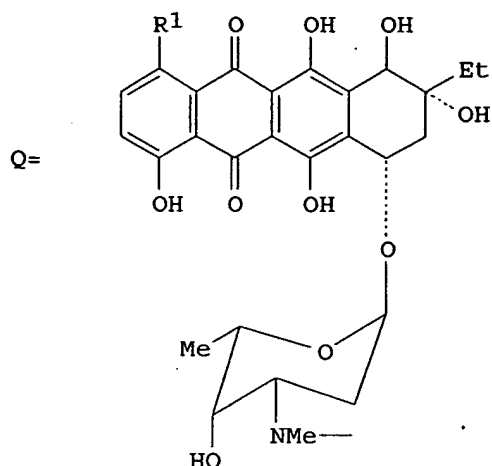
CN D-Glucitol, 1,1'-[1,3-propanediylbis(methylimino)]bis[1-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

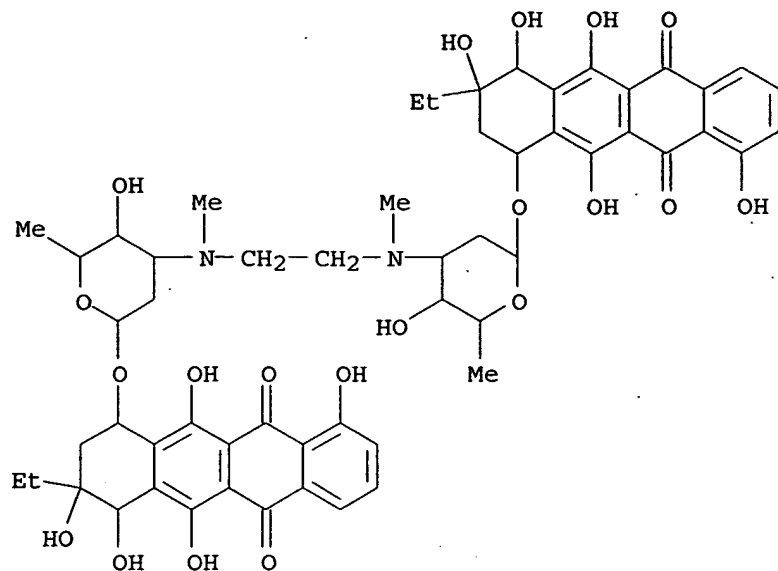


L24 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN .
 ACCESSION NUMBER: 1991:164710 HCAPLUS
 DOCUMENT NUMBER: 114:164710
 TITLE: Preparation of rhodomycin dimers as cytostatic agents
 INVENTOR(S): Hermentin, Peter; Raab, Ernst; Hoffmann, Dieter;
 Kraemer, Hans Peter
 PATENT ASSIGNEE(S): Behringwerke A.-G., Germany
 SOURCE: Ger. Offen., 11 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3913759	A1	19901031	DE 1989-3913759	19890426
PRIORITY APPLN. INFO.:			DE 1989-3913759	19890426
OTHER SOURCE(S):	MARPAT 114:164710			
GI				

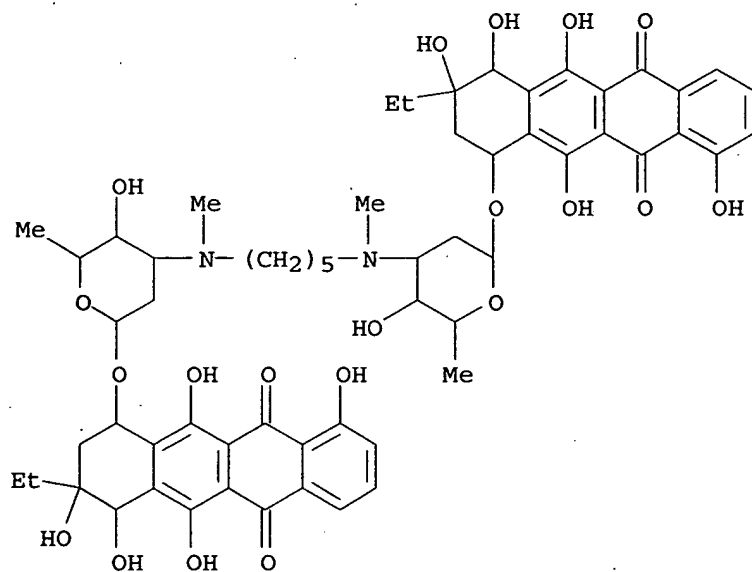


- AB R2X (R = Q; R1 = H, OH; X = NM-, O-, or CO-interrupted aliphatic spacer ≤5 nm in length) were prepared. Thus, QH (R1 = H) (I) underwent reductive condensation with ClCH2CHO and the product condensed with I to give QCH2CH2Q (R1 = H) which had IC50 of <0.004 µg/mL against leukemia L1210 cell growth in vitro.
- IC ICM A61K031-70
ICS A61K031-65
- CC 33-7 (Carbohydrates)
Section cross-reference(s): 1
- IT 133001-78-2P 133001-79-3P 133001-80-6P
133001-81-7P 133001-82-8P 133001-83-9P 133024-94-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as cytostatic agent)
- IT 133001-78-2P 133001-79-3P 133001-80-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as cytostatic agent)
- RN 133001-78-2 HCAPLUS
- CN α-L-lyxo-Hexopyranoside, 3,3'-[1,2-ethanediylbis(methylimino)]bis[3-ethyl-1,2,3,4,6,11-hexahydro-3,4,5,10,12-pentahydroxy-6,11-dioxo-1-naphthacenyl 2,3,6-trideoxy-, [1S-[1α(1R*,3S*,4S*),3α,4β]]- (9CI) (CA INDEX NAME)



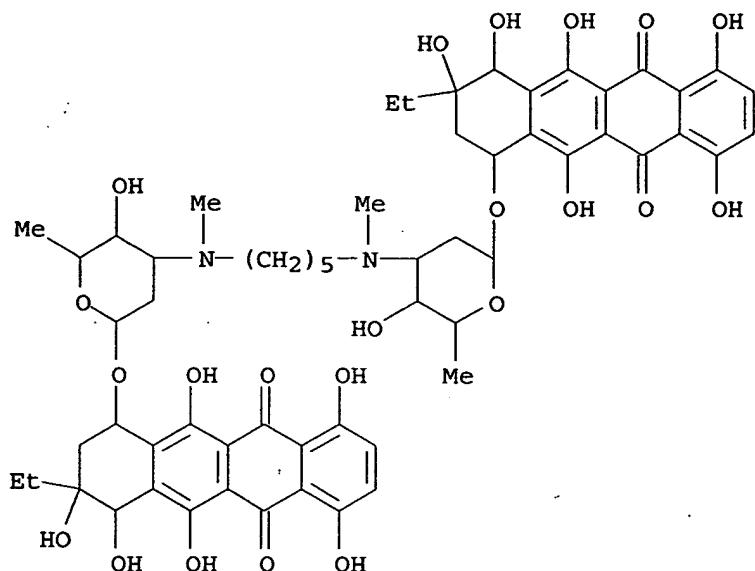
RN 133001-79-3 HCAPLUS

CN α -L-lyxo-Hexopyranoside, 3,3'-[1,5-pentanediy]bis(methylimino)]bis[3-ethyl-1,2,3,4,6,11-hexahydro-3,4,5,10,12-pentahydroxy-6,11-dioxo-1-naphthacenyl 2,3,6-trideoxy-, [1S-[1 α (1R*,3S*,4S*),3 α ,4 β]]- (9CI) (CA INDEX NAME)



RN 133001-80-6 HCAPLUS

CN α -L-lyxo-Hexopyranoside, 3,3'-[1,5-pentanediy]bis(methylimino)]bis[3-ethyl-1,2,3,4,6,11-hexahydro-3,4,5,7,10,12-hexahydroxy-6,11-dioxo-1-naphthacenyl 2,3,6-trideoxy-, [1S-[1 α (1R*,3S*,4S*),3 α ,4 β]]- (9CI) (CA INDEX NAME)



L24 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1981:16011 HCAPLUS

DOCUMENT NUMBER: 94:16011

TITLE: Surfactants based on N-methyl-D-glucamine

AUTHOR(S): Veksler, V. I.; Kovalenko, L. N.; Sergeeva, N. I.

CORPORATE SOURCE: Inst. Sov. Torg., Leningrad, USSR

SOURCE: Zhurnal Obshchei Khimii (1980), 50(9), 2120-3

CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The surface-active properties of quaternary ammonium salts of D-sorbitol, e.g., [QNMeRR1]+X- (Q = radical from D-sorbitol, R = Et, Pr, octyl, nonyl, decyl, CH2CO2C6H13, CH2CO2C10H21, CH2CO2Me, R1 = dodecyl, hexadecyl, octadecyl, X- = Br, Cl) and [QMeRNCH2]2+ 2Br- (R = dodecyl, hexadecyl), depend on the structure of the substituents connected to the N atom. A correspondence between the surface-active and bactericidal properties was also found.

CC 33-5 (Carbohydrates)

Section cross-reference(s): 1

IT 54261-91-5 73458-66-9 73458-67-0 73458-70-5 73458-79-4

73458-80-7 73458-82-9 73458-84-1 73458-86-3 73458-88-5

75869-90-8 75869-91-9 75883-17-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(surface-active properties of, bactericidal activity in relation to)

IT 75869-90-8 75883-17-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(surface-active properties of, bactericidal activity in relation to)

RN 75869-90-8 HCAPLUS

CN D-Glucitol, 1,1'-[1,2-ethanediylbis(dodecylmethyliminio)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

[illegible] $\bullet_2 \text{ Br}^-$
$$-\text{OH}$$

RN	75883-17-9	HCAPLUS
CN	D-Glucitol, 1,1'-[1,2-ethanediylbis(hexadecylmethyliminio)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)	

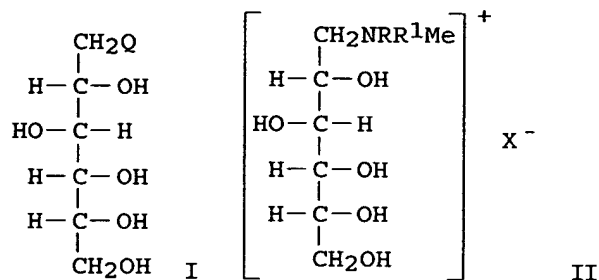
[illegible] $\bullet_2 \text{ Br}^-$

PAGE 1-B

$$-\text{OH}$$

L24 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1980:181509 HCAPLUS
DOCUMENT NUMBER: 92:181509
TITLE: Synthesis of antimicrobial substances - derivatives of
D-sorbitol
AUTHOR(S): Veksler, V. I.; Deeva, V. E.; Kovalenko, L. N.;
Markovich, A. V.; Lysenko, E. A.; Sokolov, B. V.;
Sokolov, V. D.; Solov'yan, N. A.; Khavin, Z. Ya.; et
al.

CORPORATE SOURCE: Leningr. Inst. Sov. Trgovli, Leningrad, USSR
 SOURCE: Zhurnal Obshchei Khimii (1979), 49(12), 2731-8
 CODEN: ZOKHA4; ISSN: 0044-460X
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI



AB Alkylation of N-methyl-D-glucamine (I, Q = MeNH) with RX (R = C₁₈H₃₇, X = Br; R = C₁₂H₂₅, C₁₄H₂₉, C₁₆H₃₃, X = Cl) gave I (Q = MeNR) which were alkylated by R₁X [R₁ = C₁-6, 8-10 alkyl, PhCH₂, CH₂CO₂R₂ (R₂ = Me, hexyl, octyl, decyl), CH₂CONEt₂, X = I, Cl, Br, PhSO₃] to give quaternary ammonium salts II which were effective against gram-pos. bacteria and exhibited low toxicities in chick embryo tests.

CC 33-5 (Carbohydrates)

Section cross-reference(s): 1

IT 54261-91-5P 54261-92-6P 73458-63-6P 73458-64-7P 73458-65-8P
 73458-66-9P 73458-67-0P 73458-68-1P 73458-69-2P 73458-70-5P
 73458-71-6P 73458-72-7P 73458-73-8P 73458-74-9P 73458-75-0P
 73458-76-1P 73458-78-3P 73458-79-4P 73458-80-7P 73458-81-8P
 73458-82-9P 73458-83-0P 73458-84-1P 73458-85-2P 73458-86-3P
 73458-87-4P 73458-88-5P 73458-89-6P 73458-90-9P
 73458-91-0P 73469-05-3P 73495-13-3P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation and bactericidal activity of)

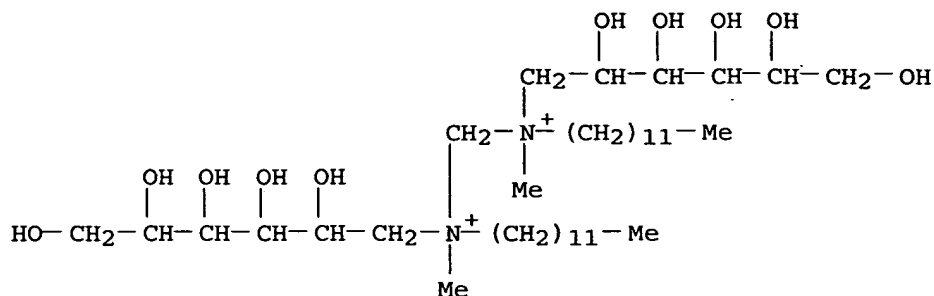
IT 73458-89-6P 73458-90-9P 73458-91-0P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation and bactericidal activity of)

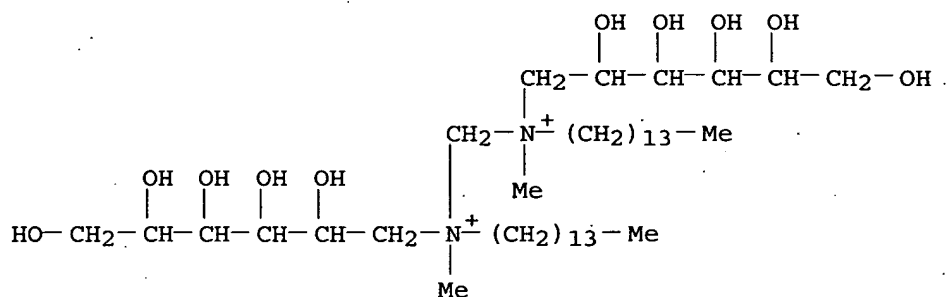
RN 73458-89-6 HCAPLUS

CN D-Glucitol, 1,1'-[methylenebis(dodecylmethylinio)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

● 2 Br⁻

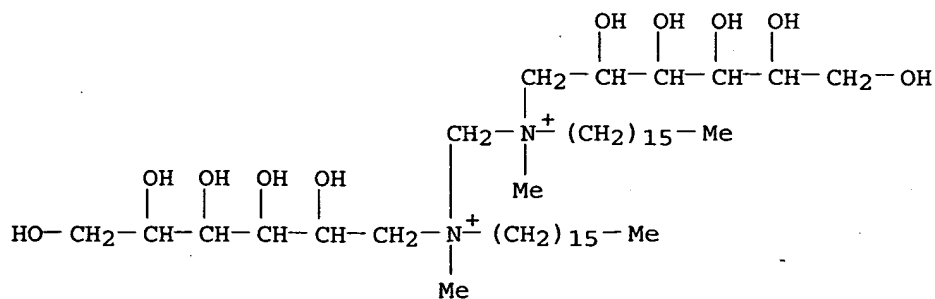
RN 73458-90-9 HCAPLUS

CN D-Glucitol, 1,1'-[methylenebis(methyltetradecyliminio)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

● 2 Br⁻

RN 73458-91-0 HCAPLUS

CN D-Glucitol, 1,1'-[methylenebis(hexadecylmethyliminio)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

● 2 Br⁻

L24 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1966:18724 HCAPLUS
 DOCUMENT NUMBER: 64:18724
 ORIGINAL REFERENCE NO.: 64:3357b-d
 TITLE: Stabilized formaldehyde solutions
 INVENTOR(S): Butter, George N.
 PATENT ASSIGNEE(S): Commercial Solvents Corp.
 SOURCE: 2 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3214475		19651026	US	19620305
GB 1012824			GB	

AB Deposition of HCHO polymer from aqueous solns. is retarded by addition of about 25-250 ppm. of (GNRCO)2R' (I), where R is a lower alkyl radical, R' is an alkylene radical containing at least 5 C atoms, and G is a glycitol radical containing at least 5 C atoms. I can be prepared by condensation of a diacid radical containing not less than 7 C atoms with a glycamine. Thus, to a 1000-ml. portion of 44% HCHO solution containing 1% MeOH was added 1.25 ml. of

a MeOH solution containing sufficient bis(N-methylglucatyl)azelylamide (II) to add 50 ppm. II to the HCHO solution This modified solution and a 1000-ml. portion of the 44% aqueous HCHO containing no II were kept at 100°F. for 30 days. At the end of this time, the solution containing II showed only a small amount

of solid deposit whereas the other solution was cloudy and contained a great deal of solid. The two solns. were then chilled to 60°F. and solid precipitated in both portions of solution After this, the solns. were heated

to 120°F. with agitation. The solid material in the portion containing II substantially disappeared whereas the control solution was not appreciably changed. Other stabilizers shown to be effective were bis(N-methylglucatyl) derivs. of sebacylamide, thapsylamide, and tricontanediylamide, and the bis(N-isopropylglucatyl), bis(N-butyglucatyl), bis(N-methylfructatyl), and bis(N-methylgalactatyl) derivs. of azelylamide.

NCL 260606000

CC 33 (Aliphatic Compounds)

IT 5921-68-6, Decanediamide, N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)-N,N'-dimethyl- 7181-03-5, Triacontanediamide, N,N'-dimethyl-N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)- 7181-04-6, Nonanediamide, N,N'-diisopropyl-N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)- 7181-05-7, Nonanediamide, N,N'-dibutyl-N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)- 7181-06-8, Hexadecanediamide, N,N'-dimethyl-N,N'-bis- (gluco-2,3,4,5,6-pentahydroxyhexyl)- 7181-07-9, Decanediamide, N,N'-dimethyl-N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)- 7181-08-0, Nonanediamide, N,N'-dimethyl-N,N'-bis(arabino-2,3,4,5-tetrahydroxypentyl)- 7181-09-1, Nonanediamide, N,N'-dimethyl-N,N'-bis(galacto-2,3,4,5,6-pentahydroxyhexyl)- 7195-85-9, Nonanediamide, N,N'-dimethyl-N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)- 7412-70-6, Octanediamide, N,N'-dimethyl-N,N'-bis(gluco-2,3,4,5,6-pentahydroxyhexyl)- (formaldehyde solution stabilization by)

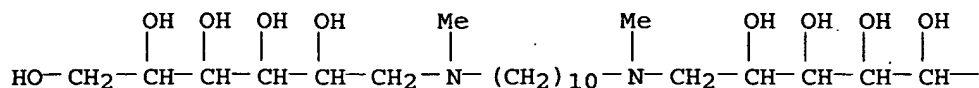
IT 5921-68-6, Decanediamide, N,N'-bis(gluco-2,3,4,5,6-

pentahydroxyhexyl)-N,N-dimethyl-
(formaldehyde solution stabilization by)

RN 5921-68-6 HCAPLUS

CN Decanediamide, N,N'-bis(glucó-2,3,4,5,6-pentahydroxyhexyl)-N,N-dimethyl-
(8CI) (CA INDEX NAME)

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PAGE 1-B

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L24 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1958:6586 HCAPLUS

DOCUMENT NUMBER: 52:6586

ORIGINAL REFERENCE NO.: 52:1217b-d

TITLE: Dihexitylamines and their functional derivatives

INVENTOR(S): Zech, John D.

PATENT ASSIGNEE(S): Atlas Powder Co.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2802821		19570813	US	

AB A process is described for the preparation of new compds. containing two substituted secondary hexitylamine radicals and their functional derivs. Thus, 195 g. methylglucamine, 64 g. 1,4-dichlorobutane, 300 ml. H₂O, and 84 g. NaHCO₃ was refluxed 17 hrs., H₂O distilled to a final temperature of 143° at 5 mm., the residue dissolved in 250 ml. MeOH and filtered, and 235 g. 1,4-bis(N-methylglucamino)butane recovered from the filtrate by evaporation. Similarly prepared were

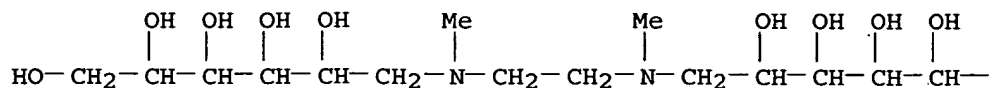
1,3-bis(N-methylglucamino)-2-hydroxypropane,
1,2-bis(N-methylglucamino)ethane, 2,2'-bis(N-methylglucamino)diethyl ether, 3,3'-bis(N-methylglucamino)-2,2'-dihydroxydipropyl ether. Because of reactive groups in the above compds., esters, ethers, and quaternary compds. may be formed which are useful as surface-active agents, corrosion inhibitors, textile assistants, detergents, etc. Cf. C.A. 51, 18705a.

CC 10 (Organic Chemistry)

IT 109505-50-2, Sorbitol, 1,1'-[ethylenebis(methylimino)]bis[1-deoxy-109966-73-6, Sorbitol, 1,1'-[tetramethylenebis(methylimino)]bis[1-deoxy-110055-55-5, Sorbitol, 1,1'-[(2-hydroxytrimethylene)bis(methylimino)]bis[1-deoxy-114329-72-5, Sorbitol, 1,1'-[oxybis[ethylene(methylimino)]]bis[1-deoxy-117123-18-9, Sorbitol, 1,1'-[oxybis[(2-hydroxytrimethylene)(methylimino)]]bis[1-deoxy-(preparation of)]

IT 109505-50-2, Sorbitol, 1,1'-[ethylenebis(methylimino)]bis[1-deoxy-
 109966-73-6; Sorbitol, 1,1'-[tetramethylenebis(methylimino)]bis[1-
 deoxy-
 (preparation of)
 RN 109505-50-2 HCAPLUS
 CN Sorbitol, 1,1'-[ethylenebis(methylimino)]bis[1-deoxy- (6CI) (CA INDEX
 NAME)

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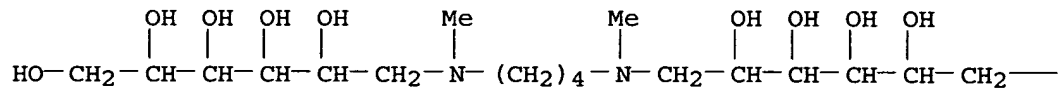


PAGE 1-B

—CH₂—OH

RN 109966-73-6 HCAPLUS
 CN Sorbitol, 1,1'-[tetramethylenebis(methylimino)]bis[1-deoxy- (6CI) (CA
 INDEX NAME)

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—OH